



Filing Receipt

Received - 2021-09-30 03:37:41 PM
Control Number - 52373
ItemNumber - 166

PUC PROJECT NO. 52373

**REVIEW OF WHOLESALE
ELECTRIC MARKET DESIGN**

**§
§
§**

**PUBLIC UTILITY COMMISSION
OF TEXAS**

**A PROPOSAL FOR MARKET REFORM
BY
TEXGEN POWER, LLC¹**

I. Introduction and Executive Summary

1. The Commission could construct a market mechanism to procure reliability services based on the Twelve Coincident Net Peak ("12CNP") periods during the year.
2. The 12CNP mechanism would work as follows:
 - a. Determine the 12CNP Hours – Find the hour, in each calendar month, that had the highest net peak load (i.e., Load minus renewable output).
 - b. Assign a reliability service responsibility to all LSEs (the "Reliability Service Premium") on a load-ratio share basis, equal to (i) the total load during that month's 12CNP hour, multiplied by (ii) the HCAP (or such other value as determined by the Commission).
 - c. Allocate the Reliability Service Premium to dispatchable generation that was actually online and available during that month's 12CNP hour.
3. The 12CNP concept addresses many of the Commissions stated goals:

| Commission Priority | |
|--|-------------------------------------|
| Move away from Crisis-Based Business Model | <input checked="" type="checkbox"/> |
| Ensure Dispatchable Generation can earn reasonable profits during normal operating conditions | <input checked="" type="checkbox"/> |
| Market Design that is consistent with SB3 | <input checked="" type="checkbox"/> |
| Ensure accountability for providing reliable generation | <input checked="" type="checkbox"/> |
| Provide market signals for investment in new and existing dispatchable generation | <input checked="" type="checkbox"/> |
| Incentivize demand response and distributed generation | <input checked="" type="checkbox"/> |
| Ensure that available resources are committed to run based on market forces instead of a "command and control" framework | <input checked="" type="checkbox"/> |
| Market changes can easily be implemented into the current market design | <input checked="" type="checkbox"/> |

¹ TexGen owns over 2,000 MW of gas-fired generation in ERCOT. TexGen joins the comments filed by TCPA on this topic, but provided this additional proposal as one idea that could be implemented in conjunction with other market reforms, including specifically modifications to the ORDC.

II. Overview of 12CNP Reliability Service Product

A. Mechanics and Function

1. Each month, ERCOT would determine the hour in which the “Coincident Net Peak” occurred. This is the hour of peak total ERCOT load, less non-dispatchable generation output (i.e., wind and solar) and is the load that must be served by dispatchable generation.
2. In each of these individual hours, a Reliability Service Premium will be calculated by multiplying the total Load during the hour by the HCAP.
3. The collected Reliability Service Premium would then be allocated to all dispatchable generators in proportion to their contribution in the form of a “Reliability Service Payment” that reflects the extent to which dispatchable generation contributed to system reliability, as shown in the formula below:

$$\text{Reliability Service Payment} = (\text{HCAP}) \left(\frac{\text{Load during 12CNP}}{\text{Dispatchable Generation during 12CNP}} \right)$$

As an historical example, Table 1 shows that the Reliability Premium for October 2020 would be \$4,500 multiplied by 58,394 MW. This total charge would be collected from LSEs on a load ratio share and then allocated to the dispatchable generation (58,059MW) that was online and available, resulting in a payment of \$4,526/MWh.

Table 1. Example 12CNP and Reliability Service Premiums/Payments

| Month | 12CNP Hour | Peak Net Load (MW) | Load (MW) | Dispatchable Gen (MW) | Reliability Service Premium (\$/MWh) | Reliability Service Payment (\$/MWh) |
|----------------|------------------|--------------------|-----------|-----------------------|--------------------------------------|--------------------------------------|
| October 2020 | 10/10/2020 16:00 | 52,784 | 58,394 | 58,059 | \$4,500 | \$4,526 |
| November 2020 | 11/11/2020 17:00 | 42,075 | 44,788 | 48,043 | \$4,500 | \$4,195 |
| December 2020 | 12/17/2020 7:00 | 51,292 | 55,795 | 60,962 | \$4,500 | \$4,119 |
| January 2021 | 1/12/2021 7:00 | 52,040 | 58,456 | 62,442 | \$4,500 | \$4,213 |
| February 2021 | 2/14/2021 20:00 | 61,242 | 68,879 | 66,319 | \$4,500 | \$4,674 |
| March 2021 | 3/23/2021 19:00 | 36,669 | 41,103 | 42,953 | \$4,500 | \$4,306 |
| April 2021 | 4/13/2021 17:00 | 42,077 | 48,870 | 44,800 | \$4,500 | \$4,909 |
| May 2021 | 5/27/2021 16:00 | 49,525 | 62,120 | 57,642 | \$4,500 | \$4,850 |
| June 2021 | 6/15/2021 15:00 | 62,605 | 69,346 | 67,125 | \$4,500 | \$4,649 |
| July 2021 | 7/27/2021 16:00 | 64,978 | 72,344 | 70,124 | \$4,500 | \$4,642 |
| August 2021 | 8/31/2021 14:00 | 63,977 | 72,570 | 70,509 | \$4,500 | \$4,632 |
| September 2021 | 9/7/2021 16:00 | 61,862 | 69,553 | 68,920 | \$4,500 | \$4,541 |

B. Expected Market Response

12CNP would create predictable and beneficial responses. First, from the load perspective, 12CNP would operate like the current 4CP market response. Specifically, during periods when net load was expected to be high, load could be expected to respond by reducing overall consumption in order to minimize the load’s Reliability Premium incurred for the month.²

Second, from the generation perspective, all dispatchable generation would have the strong incentive to be online and available during periods of high net load so that they would be eligible to collect the ancillary service payment.

² ERCOT studies suggest that the 4CP and price sensitive reductions currently account for approximately 3,000 MW during peak load conditions. But 4CP reductions do not generally correspond to those instances where dispatchable generation is needed most.

III. Achievement of Commission Priorities

| Commission Priority | How 12 CNP Helps Achieve the Priority |
|--|--|
| Move away from Crisis-Based Business Models | 12CNP transitions the ERCOT market away from one in which generators make revenue only where there is physical scarcity. Under 12CNP, a generator could receive materially significant revenue when the supply-demand dynamics indicate a need for dispatchable generation. And yet the grid need not approach scarcity/emergency conditions for this to occur. |
| Ensure Dispatchable Generation can earn reasonable profits during normal operating conditions | 12CNP guarantees that generators who create reliability will earn a reasonable profit throughout the operating year. Every dispatchable generator that actually serves high levels of net load will collect its prorated portion of the Reliability Service Premium. A generator who is fully available during every 12CNP interval would receive (based on the currently proposed HCAP of \$4,500) 54,000 \$/MWh, which is approximately 17% of the ERCOT Peaker Net Margin (PNM). |
| Market Design that is consistent with SB3 | SB3 requires that the Commission evaluate and implement reliability services necessary to ensure reliability during periods of relatively high net load. 12CNP is directly targeted to achieving these reliability goals because it incentivizes more dispatchable generation to be online, while incentivizing less overall consumption. |
| Ensure accountability for reliable generation | 12CNP ensures that dispatchable generators are compensated not merely for having capacity available, but only if/when such generator is actually online and helping to meet system demands, especially when its needed most. A dispatchable generator must be accountable for providing reliable generation if it wants to receive the Reliability Service Premium. |
| Provide market signals for investment in new and existing dispatchable generation | <p>Neither historical energy-only liquidation nor energy-only forward markets are significant enough to justify a large amount of dispatchable generation new build. 12CNP would help close the revenue gap created by the HCAP reduction by adding an additional revenue stream for dispatchable generation, thereby incentivizing the necessary investment.</p> <p>Importantly, 12CNP would provide incentives only for the investment in <i>dispatchable</i> generation, and it would not result in any increased revenue for less reliable, intermittent, non-dispatchable generation.</p> |
| Incentivize demand response and distributed generation | As is the case with the current 4CP construct, 12CNP would have a built-in market mechanism to incentivize the reduction in overall consumption during periods of low non-dispatchable generation availability. Loads would reduce consumption in order to minimize their portion of the Reliability Service Premium. |
| Ensure that available resources are committed to run based on market forces instead of a “command and control” framework | 12CNP mitigates the need for ERCOT to exercise “command and control” practices to ensure unit commitments during periods where the energy market would generally not support self-commitment of such units. Dispatchable generation would self-commit during periods of low non-dispatchable output in order to be eligible to collect the Reliability Service Payment. |
| Market changes can easily be implemented into the current market design | 12CNP can be integrated into current market systems quickly and easily. It does not require significant system changes or the deployment of new systems or markets. Rather, it is primarily a settlement and metering function that is not unlike existing market mechanisms. |

IV. Conclusion

It's not a silver bullet.

But the 12CNP Reliability Service accomplishes many of the Commission's market design goals, is easy to understand and implement, reflects a market-based solution, and is directly targeted to achieving the reliability needs set forth in SB3.

TexGen recommends that the Commission evaluate this proposal and consider a larger discussion of how to integrate this reliability product into the market.

Respectfully submitted,

By: s/Daniel Booth/s

Daniel Booth

Chief Operating Officer

TexGen Power, LLC

Email: dbooth@texgenpower.com